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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/406,269 09/24/99 JIAO

J 48551

HM12/0525

PETER F CORLESS
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BOSTON MA 02109

EXAMINER

VOLLAND, J

ART UNIT

PAPER NUMBER

1621

DATE MAILED:

05/25/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/406,269

Applicant(s)
Jiao et al

Examiner
Jean F Vollano

Group Art Unit
1621



- ☐ Responsive to communication(s) filed on _____
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 1 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

- ☒ Claim(s) 1-63 is/are pending in the application.
- Of the above, claim(s) _____ is/are withdrawn from consideration.
- ☐ Claim(s) _____ is/are allowed.
- ☐ Claim(s) _____ is/are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☒ Claims 1-63 are subject to restriction or election requirement.

Application Papers

- ☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- ☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
- ☐ received.
- ☐ received in Application No. (Series Code/Serial Number) _____.
- ☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

- ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- ☒ Notice of References Cited, PTO-892
- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____
- ☐ Interview Summary, PTO-413
- ☒ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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DETAILED ACTION

Election/Restriction

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. A method for treating a mammal with an effective amount of at least one TF blocking compound to treat any disease that is not found in claim 2. Further restriction will be required if this group is elected.

Claim 1 (in part) and claims 5- 12 (in part) class 514, various subclasses depending on the species chosen.

II. A method for treating a mammal with an effective amount of at least one TF blocking compound to treat a cardiovascular disease, a blood coagulation disorder, a cell proliferation disorder, post-operative complication, an immune disorder, atherosclerosis, inflammation or cancer .

Claim 1 (in part), claim 2, and claims 5-12(in part) class 514, various subclasses.

II. A method of blocking or inhibiting tissue factor-dependent activation of factor X and or factor IX, comprising contacting the tissue factor with a TF blocking compound to inhibit formation of a functional complex of factor X or factor IX.

Claims 3-4 and claims 5-12 (in part). Class 424, 514 and various subclasses.

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III. An assay method for identifying TF blocking compounds.

Claims 13-18 found in class 435, various subclasses.

IV. Compounds of formula I of claim 24 wherein (Het) and n is 1 or 0 and/or Ar is a heteroaryl. There must be at least one heterogroup in the choices for (Het)_n and Ar.

Claims 19, 24-25, 30, 31, 44-45 (in part) found in various classes depending on the hetero-rings. An election of species is required if this group is chosen.

V. Compounds of the formula I of claim 24 wherein (Het) n=0 and Ar is not a heteroaryl.

Claims 19, 24-25 (in part) and 30-31, 44-45, 63 (in part) found in class 568, 562, 560, various subclasses.

VI. Compounds not of the formula I, III or IV which are found to exhibit the effects found in claims 19-23.

Claims 19-23 (in part) found in various classes dependent on the structure.

VII. Compounds of formula III which contain a amino chain linking the aryl group and the phosphorus.

Claims 26, 27 and claims 19, 30, 31, 46-47, 51, 63 (in part) found in classes 564 and 568, various subclasses

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VIII. Compounds of formula IV which contain an ether chain linking the aryl group and the phosphorus.

Claims 28-29 and claims 19, 31, 48, 49, 51, 63 (in part) found in classes 568, various subclasses.

IX. A method for treating any disease impacted by tissue factor.

If this group is chosen a further restriction among the diseases impacted by tissue factor will be required. Also an election of species will also be required.

Claim 32-39, classes and subclasses will vary depending on the further restriction.

X. A method of inhibiting blood coagulation. If this group is chosen then an election of species is required.

Claims 52-56, found in class 514, various subclasses.

XI. A method of treating or preventing thromboembolic disorder. If this group is chosen then an election of species is required.

Claims 57-60, found in class 514, various subclasses.

XII. A method of treating atherosclerosis. If this group is chosen then an election of species is required.

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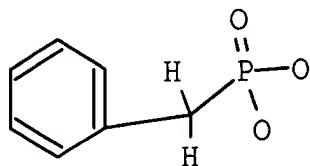
Claims 61-62, found in class 514, various subclasses.

2. Groups IV-VIII are patentable distinct compound groups which only have one PO_3 as the common core which is found in every representative compound. The compounds can have a hetero-ring or a carbon chain or an ether chain or an amide change and the Ar can be a heterocyclic or a carbocyclic group in some cases they are benzene however the only requirement of all the groups is at least one PO_3 group.

The compounds in Groups IV- VIII have different chemical and physical properties.

Group IV contains heterocyclic rings which can have a myriad of different heteroatoms in the ring and the rings would convey different chemical and physical characteristics. For example a pyridine ring would be an aromatic heterocycle that can be protonated and act as a basic moiety and the aromaticity of the heterocyclic ring would convey a different solubility from the groups which have no heterocyclic moiety.

Group V is drawn to compounds that do not have nitrogen or oxygen or sulfur in the core structure. An example of the compounds in this group is shown below:

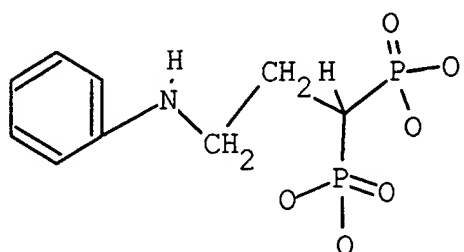


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This is a known compound found CA:120:219245 which has the chemical and physical properties that are different from the heterocyclic compound in that there are no other influences than the phosphonic acid group.

Group VI is drawn to compound which are not include in the other compound groups and as such don't even have to have a phosphonic acid moiety present.

Group VII is drawn to a compound that has a amino chain in the ring as shown below:



This is also a known compound that has different chemical and physical properties from both the hetero compounds and the carbon compounds above. This compound has its own utility in the preparation of

herbicides as found in CA:125:320562.

Group VIII is drawn to ether linked compounds which do not have the basicity of the amine compounds or the chemical and physical properties of the hetero-aryl compounds. The compound is an ether which can undergo ether reactions and which would be more easily cleaved than the carbon linked group. The ether linkage compounds have their own utility as competitive inhibitors of myo-inositol monohosphatase as taught in CA:119:28231.

Inventions of the compounds IV-VIII and the methods of use groups which include I-II and IX -XII are unrelated. Inventions are unrelated if it can be shown that they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions have different functions. The compounds have different

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utilities from the ones being claimed in groups I-II and IX-XII as shown above in the literature cited.

Group I is unrelated to Group II in that the method being used is for different TF blocking diseases. Group III is drawn to an assay which is an analytical tool to identify compounds and it not a method of treatment. Group IX is a method of treating a disease which does not necessarily have to block TF and has a scope of compounds which are different than groups I and II. Group X-XII are drawn to treating different disorders which have their own unique responses to treatment.

3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

4. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

5. A telephone call was made to Mr Peter F Corless on 5/23/2000 to request an oral election to the above restriction requirement, but did not result in an election being made.

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Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

6. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr J F Vollano whose telephone number is (703) 305-4483. The examiner can normally be reached on Monday to Thursday from 6:30 to 5:00 .

8. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann Richter , can be reached on (703)308-4532 . The official fax phone number for the organization where this application or proceeding is assigned is (703)308-4556. It should be noted that the examiner cannot immediately work on a fax sent to this number.

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9. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-1235.

Jean F. Vollano



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May 23, 2000